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POWER SEWING STUDY. FINAL REPORT.

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The Salt Lake City, Utah, Manpower Development and Training Act power sewing program was studied to ascertain its effectiveness in meeting the needs of the area needle craft industry. Specific factors examined were the system of referral of students to the program and qualifications of entry students, the administrative structure of the program, the relationship of the program to industry, the course content and methods of instruction, and the job placement system. A questionnaire survey of 1967 program graduates, personal interviews with potential employers and Employment Security personnel, and visits to the Salt Lake City program and other programs were procedures utilized to obtain data. It was found that there is a definite need for a training program for power sewing machine operators in the Salt Lake Valley but that the present program is not adequately meeting the needs of the needle craft industry and must be substantially changed. Specifically, the program suffers from--(1) the referral of low quality students, (2) an unsatisfactory classroom and administrative structure, (3) a lack of cooperation and coordination between the training program and the industry, (4) a lack of an integrated and detailed course of study, and (5) a lack of proper teaching procedures and proper emphasis. A course outline for the power sewing machine training program at Utah Technical College, Provo, Utah is included. (HC)

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FINAL REPORT

Project No. 6-3046
Grant No. OEG-4-7-063046-1612

POWER SEWING STUDY

July 1968

U.S. DEPARTMENT OF HEALTH,
EDUCATION, AND WELFARE

Office of Education
Bureau of Research

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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POWER SEWING STUDY. FINAL REPORT

OFFICE OF THE STATE SUPERINTENDENT OF PUBLIC INSTRUCTION

June 1968

The Utah Research Coordinating Unit (RCU) for Vocational and Technical Education was asked by Mr. Jed Wasden, State Specialist for Trade and Industrial Education to investigate the problem outlined herein.

Principal Investigator — Robert Pommerville
Project Officer — John F. Stephens

SUMMARY

Statement of the Problem: Does the power sewing program being offered in Salt Lake City under the auspices of the Utah State Department of Public Instruction meet the needs of the needlecraft industry in the area?

Objectives of the Study: The objectives of this study were to assess:

a. The adequacy of the system for the referral of students to the course;
b. The qualifications desired for entry students;
c. The adequacy of the present administrative structure;
d. The relationship existing between the training program and the industry it serves;
e. The course content as compared to the stated requirements of the needlecraft industry employers;
f. The methods of instruction utilized in presenting the course; and
g. The adequacy of the job placement system.

Method: In order to accomplish the objectives of the study, the following procedure was followed:

Survey of past students	Interviews with Empl. Sec. personnel
Survey of employers	Visits to the Salt Lake training class
Survey of other courses	Personal observation

Conclusions: It was found that there is a definite need for a training program for power sewing machine operators in the Salt Lake Valley but that the present training course offered in Salt Lake is not adequately meeting the needs of the Needlecraft Industry and must be substantially changed in content and approach. Specifically, the course suffers from:

1. The referral of low quality students to the course;
2. An unsatisfactory classroom and administrative structure;
3. A lack of cooperation and coordination between the training class and the industry it is intended to serve;
4. Lack of an integrated and detailed course of study;
5. A lack of proper teaching procedures and proper emphasis in the training course.

It was recommended that the program be continued, but that it be substantially changed in view of the weaknesses enumerated above. The specific changes to be introduced were suggested.

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CHAPTER I

POWER SEWING - INTRODUCTION

A. PROBLEM

Does the power sewing training program being offered in Salt Lake City under the auspices of the Utah State Department of Public Instruction meet the needs of needlecraft industry in the area?

B. OBJECTIVES OF THE STUDY

The objectives of this study were to assess:

a. The adequacy of the system for the referral of students to the course.

b. The qualifications desired for entry students.

c. The adequacy of the present administrative structure.

d. The relationship existing between the training program and the industry it serves.

e. The course content as compared to the stated requirement of the needlecraft industry employers.

f. The methods of instruction utilized in presenting the course.

g. The adequacy of the job placement system.

B. BACKGROUND

The Salt Lake power sewing program was organized in 1965 to provide trained operators for the various companies in the needlecraft industry in the Salt Lake area. At the time the course was organized, the industries agreed to provide certain machines and equipment essential to the operation of the course. After an unsuccessful attempt to secure MDTA funding for the program, it was established to operate directly under the Office of the State Superintendent of Public Instruction with the Vocational Division being the action agency. The course had a secondary objective which might be considered of almost equal importance, and that was to provide employable skills to persons on the rolls of the State Department of Public Instruction who were frequently out of work.

Since the establishment of the course, there have been many complaints from the potential employers as to the adequacy of the course content, as well as the basic qualifications of the personnel being trained. Although the course has continued to run until the present time, the number of students has gradually dwindled, and the graduates' ability to find work in the local needlecraft industry has declined.

C. LIMITING FACTORS

The findings resulting from this study were limited in several ways. These limitations include the following factors:

1. The various production skills required by the employers of power sewing machine operators are not uniform in scope.

2. There have been no known substantive surveys conducted of power sewing machine operator training courses as they exist in the United States, thereby providing no basis for the comparison or evaluation of the training programs presently in effect in Utah.

3. There is at the present time no standard training program for power sewing machine operators, although the trade magazine BOBBIN' is making some progress in this area.

D. DELIMITATIONS

In addition to the limiting factors listed above, there were certain delimitations placed on the project which the investigator felt were necessary to give more definition to the study.

1. The intended scope of the study was not to be an in-depth survey of the needlecraft industry.

2. The study was limited geographically to the Salt Lake Area served by the training class.

CHAPTER II

DESCRIPTION OF THE RESEARCH DESIGN

A. DESIGN FORMAT

In order to accomplish the objectives of this study, it was necessary to seek information from the following sources:

1. SURVEY OF PAST STUDENTS - to ascertain the effectiveness of the present Utah programs in preparing students for employment in the needlecraft industry.

2. SURVEY OF EMPLOYERS - to ascertain the hiring requirements of the employers, their feelings about the present training program with its strengths and shortcomings, their suggestions for improvement of the training program, and the general training problems and personnel practices used and encountered by the employers.

3. SURVEY OF OTHER COURSES - to ascertain other methods for selecting, training and placing students in a power sewing training class which have proven successful.

4. INTERVIEWS WITH EMPLOYMENT SECURITY PERSONNEL - to establish those procedures and selective practices presently used in referring students to the training program, and to determine the sources for future students in the program.

5. VISITS TO THE SALT LAKE TRAINING CLASS - to ascertain present course content and direction, to obtain lists of past students, and to inquire into the suitability of the present administrative structure.

6. PERSONAL OBSERVATION - to obtain first-hand knowledge as to the various areas involved in this study, to determine the proper role of the industry in any training class, and to substantiate impressions received from other sources.

B. POPULATION AND SAMPLE

The populations for this study consisted of:

1. All students taking and completing the power sewing training class in Salt Lake City during the two-year period, 1966-1967.

2. All employers having places of business in the Salt Lake Area who are potential employers of the graduates of the Salt Lake power sewing training class.

The sample chosen for the survey consisted of each of the populations listed above. A questionnaire was sent to each of the students taking the class during the years 1966 and 1967. Each of the employers was visited individually.

C. PROCEDURES

1. SURVEY OF PAST STUDENTS - to ascertain the effectiveness of the present program in preparing students for employment in the needlecraft industry. The questionnaire was designed to avoid the reluctance of the students to expose their personal lives to public scrutiny, and so offered no opportunity for them to identify themselves. There was also no attempt to identify respondents by a numbering system.

It is felt that the questionnaire was a capable and a successful instrument, perhaps not due so much to the ingenuity utilized in its preparation, but rather to the complete frankness and honesty of the students who responded. The writer was quite impressed with the returned questionnaires, as it was obvious the students felt strongly about the course and wished to convey their impressions as directly and as forcibly as possible.

About a week and a half after the questionnaires were sent out, a follow-up letter was sent to every student, thanking them for their cooperation and asking them to return the questionnaires if they had not already done so. About thirty questionnaires were received after the follow-up letter was sent out, bringing the total number of questionnaires returned to the Board of Education offices to 70 of the 139 deliverable questionnaires.

2. SURVEY OF EMPLOYERS - to ascertain the hiring requirements of the employers, their feelings on the present training program, their suggestions for improvement of the training program, and the general training problems and personnel practices used and encountered by the employers. This was a most fruitful avenue of inquiry, as the employers contacted were extremely interested in the training of power sewing machine operators and had strong feelings on the adequacy of the present training program. A great deal of background information was obtained from this source, in addition to the specific information sought.

Each of the seven employers in the Salt Lake area were personally contacted, either by phone or by personal interview. All were most helpful and offered to the writer as much of their time as was necessary to obtain the desired information.

As a result of these interviews, it was possible to determine, in general terms, the course content and fundamental operations most desired by the local industry.

The companies, and individuals within those companies, contacted in the present survey were:

A. Osborn Apparel Manufacturing Company, Spencer H. Osborn;

B. Mode O'Day Company, Don Drake;

C. Pyke Manufacturing Company, Joe Dennison - Michael Pierce;

D. Lady Lovely Apparel Manufacturing Company, Mrs. Tullgren;

E. Le Voys, Inc., Mrs. Nelson;

F. The National Filter Media Corporation, Mr. Hiner;

G. Beehive Clothing Mills, Richard Cederholm.

3. SURVEY OF OTHER COURSES - to ascertain other methods for selecting, training and placing students in a power sewing training class several visits were made by the Principal Investigator to the Power Sewing class at the Utah Technical College at Provo, one of the few other power sewing classes in the State school system.

Several of the employers in the Salt Lake area operate their own training courses in preference to that offered in Salt Lake City by the Board of Education. These classes were visited and the basic techniques and methods of teaching. and the over-all objectives of the desired training program were observed and discussed.

4. INTERVIEWS WITH EMPLOYMENT SECURITY PERSONNEL - to establish those procedures and selective practices presently used in referring students to the training program, and to determine the sources for future students in the program. The Employment Security personnel in Provo and in Salt Lake were interviewed to determine, in addition to the information listed above, their overall attitude toward the power sewing operator training program.

5. VISITS TO THE SALT LAKE TRAINING CLASS - to ascertain present course content and direction, to obtain lists of past students, and to inquire into the suitability of the present administrative structure. The instructor of the Salt Lake course, Mrs. Nedra Bird, was very helpful and offered her full cooperation in this survey.

6. PERSONAL OBSERVATION - to obtain first-hand knowledge as to the various areas involved in this study, to determine the proper role of the industry in any training class, and to substantiate impressions received from other sources.

CHAPTER III

RESEARCH RESULTS

A. QUESTIONNAIRE RETURNS

Questionnaires were sent to all students completing the Salt Lake Power Sewing Operator training course during the years 1966-1967. Of the 151 questionnaires distributed, 12 were returned undelivered to the State Board of Education offices. Of the remaining 139 questionnaires which (it is assumed) reached the addressee, 70 were completed by students and returned. The rate of return (70/139 = 50.4%) constituted a sufficient sample to provide meaningful results. The complete returns are included in this study as Appendix A.

Perhaps the most meaningful statistics resulting from the questionnaire were those relating to the past and present employment histories of those who had completed the training course. These statistics should be viewed in the light of the fact that the students were registered for the course to fill actual job vacancies that would exist upon their graduation.

An analysis of the completed questionnaires revealed that of those responding:

54% were employed at the time the questionnaire was received,
21% were working in the needlecraft industry,
53% had at some time been employed in the needlecraft industry,
21% of those who had been employed by the needlecraft industry had been discharged.

The comments on the returned questionnaires also gave some indication as to the feeling of some of the students regarding the training course. One of the students wrote: "The school was a waste of time because so many of the things we learned there the factories don't do to save time. We learned the machine but any factory could teach it in less time and get some production out at the same time." Another commented: "We weren't taught the importance of speed, and of not visiting with the next operator, etc. I feel that speed and accuracy tests at the school would be helpful." Another comment was: "I enjoyed this course very much but have never found employment from having taken the course. In fact, people who have not had the course at all have been hired over me."

The questionnaires seemed to indicate that:

1. The training class is not adequately preparing students for employment in the needlecraft industry;

2. The employer support of the program is not presently being achieved;

3. The wrong type of individual is being referred to the training course;

4. The course content presently being offered is not properly designed and fails to adequately prepare the students for employment conditions.

B. RESULTS FROM OTHER INFORMATIONAL SOURCES

The following is a summary of the information obtained from the following sources: Survey of employers, survey of other courses, interviews with Employment Security personnel, visits to the Salt Lake training class and personal observation of the writer.

In several interviews with personnel of the Salt Lake office of the Utah Department of Employment Security, it became apparent that an unfortunate attitude exists there toward the needlecraft industry. It is felt that "sweatshop" conditions exist in the needlecraft industry, and there is a corresponding reluctance in the department to refer anyone to the training course who is otherwise employable. Thus, many individuals totally unsuited for employment in this or any industry are placed in the training course in the hope that at least some might obtain employment thereby and so be removed from the State's relief roles. While this is perhaps a commendable objective, it is understood that the purpose of the training course is to provide a service for the needlecraft industry - not for the department of welfare. This impression obtained by the writer was substantiated by the questionnaire returns and by the employers themselves. One employer complained that he had referred several untrained but otherwise qualified job applicants to the Department of Employment Security for placement in the training course. Each of these applicants had been "talked out of" working as power sewing machine operators by Employment Security personnel. It is unfortunate that this sweatshop image of the Needlecraft industry (a relic of the 1930's) remains current in the Employment Security office. The impressions obtained by the writer are not at all consistent with such image.

Because of this apparently prevailing attitude, the Salt Lake training course is very limited by the poor quality of student referred to the course and by the small number of total students so referred. Rarely are there more than four or five students in the course at any one time.

A marked contrast in attitude is found in the personnel of the Provo office of the Department of Employment Security. It is there felt that the power sewing training class is a tremendous asset to the community and that it

provides a desirable placement service for job applicants. The feeling is that employment as a power sewing machine operator is quite desirable and in fact is a well-paid and pleasant occupation. Because of this very desirable attitude, capable and industrious individuals are referred to the course. The course is nearly always filled, and the employment needs of the industry are being met quite adequately from its graduates.

Many of the employers interviewed indicated that they are presently training their own operators and will not participate fully in hiring graduates of the course until the course content, student referral system, and, in some cases, the instructor or her instructional abilities, are changed. They distrust the quality of the training course and require even graduates of the course to participate in their own basic training courses.

Some of the problems with the present training course are presented immediately below and are taken from a list compiled by Don Drake of Mode O'Day after visiting the class with several of his supervisors and floor ladies. The other employers made basically the same observations as those reported by Mr. Drake.

"1. Machine Control

The operators did not appear to be master of the machine to the extent that they seemed to lack confidence in their ability to control the machine at high speeds. This is a very noticeable weakness in the girls we have hired and every effort should be made during the training period to develop this confidence so that the operators feel that they can make the machine do everything but talk, at high speed. More practice starting and stopping the machine at a given point at high speed, and the correct use of the feet on the control pedal would help.

2. Poor Handling of the Work

More practice is needed in learning to pick up the material properly and the use of both hands. Motion study should be a part of the course so the students could develop a rhythm of motion to save time and effort. We also noted that often they were practicing on one piece of material. This is seldom done in a factory, as we are generally sewing two or more pieces of material together.

3. Mechanical Aids

No edge guides were in use and Mrs. Bird stated that only one was available.

We recommend that one be obtained for each machine and that every girl be taught to their purpose and how to use them properly. A small hemmer should also be obtained and each girl given an opportunity to learn how to use it. This is good practice for the use of any attachment.

4. Visual Exercises

We have found it to be quite a problem for most women to judge distance with any degree of accuracy and feel that some exercises could be devised that would teach the girls to judge the width of the seams and the number of stitches per inch accurately. This would be very helpful to them in maintaining good workmanship, and could also apply to various shades of material.

5. Use of Kneelift

More practice is needed in the use of the kneelift and how it affects the operation of the machine. Some operators rest their knee against the kneelift and often lift the foot slightly, which not only affects the feeding but also causes thread breakage. The use of the kneelift in back-tacking should be a daily exercise.

6. Developing Rhythm

It was noted that when the operator was making a shirt or blouse, she completed one garment at a time. We suggest that she do all of one operation, then all of the next, and so on until the bundle is completed. Rhythm cannot be developed by setting one collar, then two sleeves, then side seaming, etc.

7. Use of Scissors

Girls should be told to obtain the right size scissors. Most of those being used were too big and awkward to use properly. Most operators palm their scissors and do not use the handles. Also clipping the work back is just as much a part of any operation as the sewing itself and the girls should be taught to do it quickly and accurately.

8. Keeping Work in Order

Bundles should be used whenever possible and girls should be taught how to open a bundle, how to lay the work out properly and how to pick the pieces up so that each piece is kept in order to avoid shading and also to lay it correctly for the next operation. The use of chalk marks and tags should be explained and practiced.

9. Pay Attention

The ability to pay attention is a very important part of any operator training, and is lacking in most of the girls we hire. Every effort should be made to teach the girls how very important it is not only to listen to instructions, but also to watch very carefully what the instructor is doing and how she is doing it. A deaf girl often learns to do an operation quicker than one with normal hearing, which seems to indicate that in this field you learn as much or more by watching than just by listening. So teach them to pay attention.

10. Long Seams

We suggest that the girls be given an opportunity to sew seams 24" to 30" long. Most of the practice pieces are small, which does not give them a chance to learn how to handle the long seams by letting the material slide through their fingers.

11. Run the Machine Fast

We cannot stress strongly enough the importance of teaching these girls to run the machine at full speed on all practice operations. In watching the girls sew, we got the impression that they were scared to run the machine fast for fear that they could not handle it, that they would either make a mistake or sew their fingers. This comes back to MACHINE CONTROL, which they must learn thoroughly before they will run the machine at full speed. THEY MUST LEARN TO HANDLE THE WORK AT HIGH SPEED.

12. Periodic Testing

A specific test that involves a series of exercises on both paper and material should be worked out. The tests should be given at the beginning of the course and possibly at the end of each week. This should be used to measure the progress and improvement, if any, the girls are making, by the time it takes and quality of work.

13. Time the Work

All practice exercises should have allowed times to complete as well as quality standards. Operators should be taught to time themselves and should be shown how big a part machine control and proper handling of the work plays in making it possible for them to do the work right and in the allowed time. Everything they do should be timed. They should be shown the difference between improper and proper handling on every operation they perform.

It is our sincere hope that all above comments will be accepted in the spirit that they are intended. To help everyone concerned do a better job of training the girls to be good operators wherever they might go."

It is quite evident upon visiting the Salt Lake classroom that the physical facilities are inadequate. It is difficult to imagine how efficient instruction could occur in such surroundings, particularly when coupled with the lack of employer cooperation and the low quality and quantity of students entering the program.

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

1. There is a definite need for a training program for power sewing machine operators in the Salt Lake Valley.

2. The present training course offered in Salt Lake is not adequately meeting the needs of the Needlecraft Industry and must be substantially changed in content and approach.

3. The training course suffers from:
   a. The referral of low quality students to the course which reduces the number of qualified graduates of the course.
   b. An unsatisfactory classroom and administrative structure which physically limits the effectiveness of the class and which makes an effective vocational presentation difficult.
   c. A lack of cooperation and coordination between the training class and the industry it is intended to serve.
   d. A lack of an integrated and detailed course of study.
   e. A lack of proper teaching procedures and proper emphasis in the training course.

B. RECOMMENDATIONS

It is recommended that:

1. The power sewing machine operator training course in Salt Lake be continued, but substantially changed.

2. Prospective students be referred to the training course by each employer as inexperienced help applies for jobs at the various plants. This would be in addition to any referrals to the class made by employment security personnel; or, in the alternative, all employers in the industry collectively advertise for inexperienced help, and refer all applicants to the training class, graduates of which would form a ready employment pool of qualified operators. Each employer would have equal access to this pool, according to his needs and ability to attract applicants.

3. The entire training course be transferred to the Utah Technical College at Salt Lake, and adequate classroom facilities and supervision be provided by said technical college.

4. Closer coordination and cooperation between the training class and the needlecraft industry be attained by:

a. Reliance by the industry upon the training class as the major source for filling personnel needs.
b. A constant attempt by the course instructor to remain current in her knowledge of the various employment requirements of each of the companies serviced by her class throughfrequent visits to each plant, periodic interviews with the management of each company concerning problems and dissatisfaction with graduates of the course, and continuous study of new knowledge and techniques in training power sewing machine operators as developed in other areas.
c. A constant attempt by the employers to advise the instructor of any changes and refinements in techniques or methods which have been introduced in the industry.
d. The assumption by the employers of the duty of supplying the training course with cut and bundled material, and actually delivering this material to the classroom.

5. An integrated and detailed course of study for both of the training programs supported by the State Board of Education (Salt Lake City and Provo) be developed by the combined efforts of the employers and board of education personnel. Such course of study should include many of the features of the outline included in this report as Appendix B.

6. Future Instructors for similar courses be selected from among those presently employed in the industry who have experience as an operator and as a floor lady or supervisor. The present course instructors should be urged to update their skills and instructional techniques in the areas of knowledge and skill required.

UTAH STATE BOARD OF EDUCATION

1400 UNIVERSITY CLUB BUILDING • 136 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

Office of the
STATE SUPERINTENDENT
OF PUBLIC INSTRUCTION

T. H. BELL
Superintendent

May 17, 1968

Dear Madam:

Please help the State Board of Education improve the course you have recently completed by filling out the enclosed questionnaire.

Future students will be greatly helped by your effort.

Thank you very much. A self-addressed, stamped envelope is enclosed.

Sincerely,

Robert W. Pommerville

Robert W. Pommerville
Research Assistant
Utah Research Coordinating Unit
Office of the State Superintendent of Public Instruction.

RWP: mh

Enclosures 2

WALTER D. TALBOT, Deputy Superintendent for Administration • LERUE WINGET, Deputy Superintendent for Instruction • JAY J. CAMPBELL, Deputy Superintendent for Institutions

QUESTIONNAIRE

Please return this questionnaire as soon as possible to:

Research Coordinating Unit
Utah State Board of Education
1300 University Club Building
136 East South Temple
Salt Lake City, Utah 84111

1. Are you presently employed? Yes_____ No_____

   If so, where are you now employed? _____

2. Have you ever been employed as a power sewing machine operator in a clothing manufacturing company or in any company which processes fabrics (i.e., awning and tent manufacturers, etc.)? Yes_____ No_____

   If so, where were you so employed?

   QUESTIONS 3 THROUGH 10 ARE FOR THOSE WHO ARE PRESENTLY, OR WHO HAVE EVER BEEN, EMPLOYED AS POWER SEWING MACHINE OPERATORS.

3. Did you complete the four-week course in power sewing offered by the Salt Lake Board of Education? Yes_____ No_____

   If not, why not? _____

   _____

4. Did you find that the training you received in the power sewing training course adequately prepared you for employment? Yes_____ No_____

5. How would you rate your degree of preparation for employment as a power sewing machine operator at the time you completed the training course?

   _____ A - Excellent

   _____ B - Above average

   _____ C - Average

   _____ D - Below average

   _____ E - Poor

6. How much additional on-the-job training did you require after being hired as a power sewing machine operator before you were able to meet or exceed the minimum production standards?

_____ none or less than 1 week

_____ 1-2 weeks

_____ 3-4 weeks

_____ 5-6 weeks

_____ 7-8 weeks

_____ more than 8 weeks

7. After completing the four-week training course, how long did it take you to find employment as a power sewing machine operator?

_____ A - Less than one week

_____ B - One to two weeks

_____ C - Three to four weeks

_____ D - More than four weeks

If it took you more than one week to find employment, please explain:

_____

_____

_____

8. If you are not now employed as a power sewing machine operator, why was such employment discontinued?

_____ A - Family reasons

_____ B - Dislike of work

_____ C - Better job

_____ D - Lack of adequate training

_____ E - Other (specify) _____

_____

9. Have you ever been discharged or laid-off from employment as a power sewing machine operator? Yes_____ No_____

If yes, state the reasons for such discharge or lay-off: _____

_____

_____

10. Rate the ease with which you adjusted to work (attaining full speed, on the machine, working with bundles of materials, etc.) after having completed the four-week power sewing training course?

_____ A - Very easy

_____ B - Easy

_____ C - Moderately difficult

_____ D - Difficult

_____ E - Very difficult

UTAH STATE BOARD OF EDUCATION

1400 UNIVERSITY CLUB BUILDING • 136 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

Office of the
STATE SUPERINTENDENT
OF PUBLIC INSTRUCTION

T. H. BELL
Superintendent

Dear Madam:

Recently you received a questionnaire from the Utah State Board of Education concerning the training you received as a power sewing machine operator. This survey is quite important and will assist us in planning better and more useful programs for you and for others like you who may in the future desire to acquire proficiency in power sewing.

Inasmuch as we did not require you to identify yourself on the questionnaire form, we do not know whether we have received your reply. Your ideas and experiences are most important, and the survey cannot be complete without them. If you have not yet completed your questionnaire, please do so and forward it to:

Research Coordinating Unit
1300 University Club Building
136 East South Temple
Salt Lake City, Utah 84111

If you have lost the questionnaire, please call us and request another. Our number is 328-5866.

If you have returned the completed questionnaire to us, please accept our thanks for your cooperation and assistance in this study.

Sincerely,

R W Pommerville

Robert W. Pommerville
Research Assistant
Research Coordinating Unit

RWP:rl

WALTER D. TALBOT, Deputy Superintendent for Administration • LERUE WINGET, Deputy Superintendent for Instruction • JAY J. CAMPBELL, Deputy Superintendent for Institutions

POWER SEWING QUESTIONNAIRE RETURNS

		No.	%
Total questionnaires sent out		151	
Subtract: Questionnaires not delivered		12	8.
TOTAL		139	
Questionnaires completed and returned		70	56.4
1. Presently employed?	Yes	38	54.3
	No	32	45.7
Employed in needlecraft industry?			
	Yes	15	21.4
	No	23	32.9
2. Ever employed in Needlecraft Industry			
	Yes	37	52.9
	No	31	44.3
Where?			
Osborn		13	20.0
LeVoys		8	12.3
Pykes		3	4.6
Mode O Day		3	4.6
Beehive Clothing		3	4.6
Val Lanne Fashions		1	1.5
Salt Lake Knitting		1	1.5
Judkin Co.		1	1.5
A.A.A. Mattress Co.		1	1.5
3. Complete course?	Yes	58	82.2
	No	2	3.1
4. Course adequate preparation for employment?			
	Yes	35	53.8
	No	20	30.8
5. Preparation for employment.			
A. Excellent		9	13.8
B. Above average		10	15.4
C. Average		24	36.9
D. Below average		5	7.7
E. Poor		3	4.6
6. Additional on-the-job training required			
A. None or less than 1 week		8	12.3
B. 1-2 weeks		9	13.8
C. 3-4 weeks		11	16.1
D. 5-6 weeks		4	6.2
E. 7-8 weeks		3	4.6
F. more than 8 weeks		2	3.1
7. Time to find employment after class			
A. Less than 1 week		24	36.9
B. 1-2 weeks		2	3.1
C. 3-4 weeks		6	9.2
D. More than 4 weeks		7	10.8

		No.	%
8.	Why employment discontinued?		
	A. Family reasons	4	6.2
	B. Dislike of work	5	7.7
	C. Better job	7	10.8
	D. Lack of adequate training	10	15.4
	E. Laid off or fired	7	10.8
	F. Physically unable to do work	5	7.7
	G. Too much pressure	3	4.6
9.	Ever discharged? Yes	14	21.5
	No	25	38.5
	Why?		
	A. Force reduction	5	7.7
	B. Employee not dependable	2	3.1
	C. Employer not satisfied with ability	4	6.2
	D. Physically unable to do work	2	3.1
	E. Not fast enough	5	7.7
10.	Ease of adjustment to factory work		
	A. Very easy	5	7.7
	B. Easy	18	27.7
	C. Moderately difficult	10	15.4
	D. Difficult	2	3.1
	E. Very difficult	1	1.5
COMMENTS:			
1.	More time should be spent on other than straight-stitch machines	2	3.1
2.	Class should emphasize speed	3	4.6
3.	Speed tests should be given often in class	2	3.1
4.	Actual working conditions should be emphasized	2	3.1
5.	Could never find employment in industry	1	1.5
6.	Did'nt seek employment - illness	1	1.5
7.	Speed was difficult to attain	4	6.2
8.	Teacher not competent	2	3.1
9.	Methods taught at school not used in industry	3	4.6
10.	Factories can teach better and faster than school	1	1.5
11.	Instructor was absent, so students lost time from course	1	1.5
12.	Machines at school are not the machines used in industry	2	3.1
13.	Completion of course not sufficient experience for industry	2	3.1
14.	School used different material than industry	1	1.5
15.	Course was helpful	2	3.1

POWER SEWING MACHINE OPERATION

A ONE HUNDRED TWENTY HOUR COURSE

1965

UTAH TECHNICAL COLLEGE AT PROVO

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HISTORY OF EMPLOYMENT

The history of the manufacture of wearing apparel in Utah dates back to 1847 when Brigham Young started the first plant. Z.C.M.I. began manufacturing garments in 1869 and by 1870 there were 18 apparel manufacturers with approximately 210 employees. By 1890, 1839 were employed in the apparel manufacturing industry.

The record peak of employment in the industry reached 2886 by 1910. A gradual decrease in the industry occurred over the next 30 years, with a low of 487 employees in 1940. From 1940 to 1950, employment increased to 1225 with a continual increase noticed each year to 1964.

Present employment now exceeds 2400 people in the manufacture of wearing apparel. There are now 20 manufacturers, many having several branch plants throughout the state of Utah, engaged in the manufacture of men's and boy's suits, shirts, neckwear, work clothes, sportswear, women's blouses, dresses, suits, undergarments, millinery, infant's dresses and bonnets. Twenty-five additional firms are engaged in the manufacture of textiles, canvas products, draperies, and seat covers.

The tremendous growth in population, as well as consumer purchasing power, indicates a steady growth and opportunity for employment in the needle trades industry.

POWER SEWING MACHINE OPERATION

I. The purpose of the course is:

A. To develop competency in the care and operation of power machines used in apparel manufacture. Those completing the course will be qualified to operate and care for the common power sewing machine as required of operators.

B. To develop entry skills and sewing techniques required for successful employment. Successful completion of the course will enable them to compete in the occupation as entry workers.

C. Students finishing the course will be able to demonstrate the human relationships, personal responsibilities, employer, employee understandings, characteristics of the apparel industry, etc. required for employment.

D. They will have an understanding of the employment policies and practices common to the industry such as, wage rates, bonus programs, piece work, rest periods, vocations, advancements, etc.

TRAINING STANDARDS

Persons entering training in 2-hour programs must be 18 years of age in order to comply with Utah Safety Laws in operation of power machines. They should have at least 8th grade education or equivalent, and have taken an aptitude test.

Ability to succeed in the highly coordinated skills of power sewing is a basic requirement for the course, together with a strong interest in apparel manufacture.

Each trainee will be required to supply her own scissors, a six-inch ruler, and a notebook suitable for taking notes on class instruction and work assignments.

The course will be at least 120 clock hours in length. Hours per day will be arranged by the school administration in the district where the class is set up. The instruction must be continuous when started, not given on an intermittent basis.

POWER SEWING OPERATION

Unit I The Apparel Industry

A. Brief history of the industry

1. Beginning and growth
2. Industry comes to Utah
3. Modern development

B. Human Relationships

1. Employer-employee responsibilities

a. Wages
b. Vacation, sick leave
c. Insurance, retirement
d. Labor organization
e. Promotions
f. Rest periods

2. Personal responsibilities

a. Punctuality
b. Attitudes, willing to accept instruction and responsibility
c. Appearance
d. Personal habits
e. Getting along with people

C. Safety

1. General shop safety

a. Keeping aisles clean
b. Keeping work station neat
c. Care of personal tools and machines
d. Keeping alert to movements of materials

2. Safety attitudes

a. Accident proneness
b. Selfishness vs courtesy
c. Indifference

3. Developing safety habits

   a. Turn off power before adjusting or cleaning machine
   b. Remove foot from treadle before changing the needle
   c. Call floor lady for trouble
   d. Correct lifting and carrying habits
   e. Know the safety regulations of the company
   f. Know the safety precautions on your own machine
   g. Always think and practice safety

Unit II Developing Skills On The Power Machine

A. Parts and functions, single needle machine

1. Head
2. Stand or table
3. Thread stand
4. Wheel
5. Needle bar
6. Needle 88 x 1, size 14
7. Tension
8. Tension discs
9. Take up or check spring
10. Pressure screw
11. Pressure foot
12. Bobbin
13. Bobbin winder
14. Bobbin case
15. Hook
16. Hook shaft
17. Belt
18. Treadle
19. Clutch
20. Brake
21. Knee lift
22. Hand lift
23. Stitch regulator
24. Light
25. Thread guides
26. Take up, large and small
27. Throat plate
28. Feed dogs or feeders
29. Motor
30. Attachment

B. Care of the Machine

1. Cleaning

   a. Once a day for the head
   b. Once a week for the head motor and stand (general cleaning)

2. Oiling

   a. Oil holes
   b. Wicks
   c. Reservoirs

3. Adjusting

   a. Knee lift
   b. Treadle
   c. Stitch length
   d. Tension
   e. Belt
   f. Bobbin winder
   g. Height of machine
   h. Pressure screw

C. Manipulation of the machine

1. Operate pressure foot
2. Operate knee control, lift
3. Control speed of machine, clutch
4. Change needles
5. Thread machine
6. Wind bobbin and place properly
7. Use of brake
8. Learn trade terms

   a. Notches
   b. Owl holes
   c. Drill holes
   d. Center notch
   e. Right and left notch
   f. Grain notch
   g. Piece work
   h. Fitted dart
   i. Skirt dart

j. Bust dart
k. Back pleats
l. Plackets
m. Tabs
n. Round collars
o. Pointed or tailored collars
p. Outside of foot
q. Insert
r. Inside of foot
s. Chaining off
t. Back-tacking
u. Top stitching
v. ½ inch seam
w. Guide line

Unit III Developing Skills On The 400 Straight Stitch Singer Machine

A. Developing basic machine skills

1. Feeding in material
2. Judging depth of seams
3. Sewing straight stitching, without thread
4. Paper test, without thread
5. Turning square corners
6. Making curves, ovals, zig-zag, etc.
7. Chaining off
8. Backstitching or back-tacking
9. Sewing terms
10. Sewing straight lines

B. Developing coordination

1. Posture at the machine
2. Use of left hand
3. Use of right hand
4. Use of both hands
5. Placing work at the machine
6. Eliminating waste motion
7. Timing manipulations
8. Developing speed with coordination
9. Palming scissors
10. Cutting back

Unit IV Developing Sewing Skills

A. Sew pockets

1. Top stitching
2. Setting plain pockets
3. Sew tabs
4. Top stitch tabs
5. Sew flaps on pockets
6. Top stitch flaps
7. Set tabs under pocket flaps
8. Set flaps, tab pockets

B. Round collars

1. Sew collars
2. Turn and top stitch
3. Set collars with bias
4. Top stitch

C. Tailored collars

1. Sew collars
2. Turn and top stitch collars
3. Set collars to insert
4. Finish tailored collars

D. Darts

1. Skirt or bust
2. Fitted
3. Bust

E. Back pleats

F. Plackets

G. Scallops

H. Set zipper

1. Placket
2. Side or placket

Unit V Developing Skills On Special Machines

A. Zig-zag - 143W2

1. Seams, without thread
2. Seams, with thread
3. Attach lace
4. Attach yolk lace
5. Attach yolk lace and straps

B. Overedge

1. Threading
2. Side seams
3. Necks
4. Shoulder seams
5. Set arm holes
6. Backtacking
7. Sew sleeve
8. Set sleeves

Unit VI Developing Skills In Using Attachments

A. Piping attachments, zig-zag 143

1. Necks
2. Collars

B. Pinking, 400 straight stitch Singer

1. Side seams, without thread
2. Side seams, with thread
3. Front points

C. Shearing, Overedge, Willcox, and Gibbs Superlock

1. Bodies to backs
2. Sleeves to bodies

SECOND DAY

REVIEW TEST I

1. What are the two names used for the machine you are operating?

2. What are the names for the wooden top you are working on?

3. What is the name of the part of your machine that the thread is sitting on?

4. Give the name of the part of your machine that you turn the needle down with by hand.

5. What does your needle fit into?

6. What is the metal piece next to the foot of your machine?

7. What are the teeth like things under your foot?

8. What are the names of the two metal plates that fit together on the side of your machine?

9. What is the spring called next to these plates?

10. Give the name of the whole section.

11. What are the names of the oval shape section on the side of your machine?

12. Give the correct name for the foot of your machine.

13. Name the rubber piece around your wheel and down to your motor.

14. What do you raise the foot of your machine with?

15. Give the three names for the peddle of your machine.

16. What size needle fits your machine and how does it fit?

17. Give the two important safety regulations that are used here and in the plants.

18. If the bell rings for lunch or rest period and you are working on a garment, but not yet finished, what should you do?

19. In case of power failure or fire drills, what should you do to your machine?

20. Whenever you leave your machine, what should you do to the machine?

21. What is this small metal piece called?

22. What is the metal piece that it fits into called?

23. What is the section on the side of your machine that this metal piece fits on?

24. Where in your machine does it fit when you are getting ready to sew?

THIRD DAY

REVIEW TEST II

1. Name the needle that fits the straight stitch Singer 400 machine and tell how it fits.

2. What is the reason for the little indentation in the needle?

3. In case of a power failure or fire drill, what should you do to your machine?

4. Write the two safety regulations that we use most.

5. What are the proper oiling times for your machine and what do you oil at that time?

6. What are the two methods of paying employees in the surrounding plants?

7. What is the method called for the way we use our scissors?

8. List the three indications the plants give you to sew by and give all the ways they are used.

9. What is the button on the flat of your machine called, and how do you use it?

10. Give the name and the use for the screw on the top of the head.

11. What size needle fits the 143 Zig Zag and how does it fit?

12. You learn to operate other machines besides the Singer 400. List six of them.

13. What is the reason for the arrows on your machine?

FOURTH DAY

REVIEW TEST III

1. Give the names and uses for the indications to sew by.

2. Give the cleaning procedure for your machine each night before you leave.

3. What is the proper cleaning procedure for the Willcox and Gibbs Superlock?

4. List at least 28 parts of your machine.

5. What is the proper oiling times for your machine and what do you oil at that time?

6. What is the needle for the Singer 400 and the 143 Zig Zag. Tell how the needle should fit.

7. Draw or tell how to count stitches.

8. List the three types of stitches that you learn. Sewing back and forth for reinforcement, finishing stitch, and stitch connecting one piece with another (inbetween).

9. Give the two safety regulations used most.

10. In case of power failure or fire drill, what should you do to your machine?

11. If you are working on a garment but not yet finished and the bell rings, what should you do?

UTAH TECHNICAL COLLEGE AT PROVO

Course: Power Sewing
Instructor: Carol Hoover
Date: September, 1967

RELATED INFORMATION

Parts and Functions:

1. Head - The name that is used for any machine. Straight Stitch Singer 400 - The name used for the machine you are working on.

2. Table or stand - The wooden top you work on.

3. Thread stand - The part your thread sits on.

4. Wheel - The metal piece you turn the needle down with by hand.

5. Needle bar - What your needle fits into.

6. Needle - 88 x 1 size 14

7. Tension - The small section on the side of your machine that creates the tension on the thread.

8. Tension discs - The part of your tension that the thread fits into.

9. Take up or check spring - The spring on the tension.

10. Pressure screw - The screw on the top of the head of the machine that creates or takes away the pressure on the pressure foot.

11. Pressure foot - The foot of your machine.

12. Bobbin - A metal spool for holding your thread.

13. Bobbin case - The metal part that the bobbin fits into.

14 Bobbin winder - The part on the side of your machine where the bobbin is wound.

15. Hook - Where your bobbin fits into your machine.

16. Hook shaft - Where your bobbin fits into your machine.

17. Take up - large and small - The oval piece on the side of the machine.

18. Throat plate - Metal plate under the foot and next to the feed dogs on the flat of the machine.

19. Belt - The rubber piece around your wheel and down into your motor.

20. Treadle - The name for the combination of the clutch and brake where you place your foot to make the machine go.

21. Clutch - When you push the treadle with your toe, this is the clutch.

22. Brake - When you push with your heel on the treadle to stop, this is the brake.

23. Knee lift - This is how you raise the foot of your machine.

24. Stitch regulator - The button on the flat of the machine.

25. Light - Verbal explanation

26. Thread guides - The parts that guide the thread down your machine.

27. Motor - Verbal explanation

28. Attachments - A part that is added to your machine.

UTAH TECHNICAL COLLEGE AT PROVO

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CLEANING AND OILING YOUR MACHINE

CLEANING

Your machine should be cleaned at least once a day. A brush has been provided in your drawer to brush around the hook and all around the top of your machine. The oil pan should be wiped out and the top of your table cleaned so that you may begin work easily the next morning.

When you get ready to leave each night, the needle should be unthreaded, the bobbin case and bobbin removed and placed in your drawer, material placed under the foot, a piece folded back and the needle ran through the fold. Then the material should be wrapped around the foot of the machine. Each machine has a cover to be placed over the machine and the floor around the machine swept.

It is a good safety habit to keep the floor around your machine clean and clear of oily rags at all times.

OILING

Your whole machine must be oiled once a day at 12:00 noon. The hook of your machine must be oiled 4 times a day; at 8:00 a.m., 10:00 a.m., 12:00 noon, and 3:00 p.m.

THE HOOK OF THE MACHINE SHOULD NEVER BE OILED WITH THE BOBBIN AND BOBBIN CASE IN THE MACHINE.

The bobbin and bobbin case should be removed from the machine and the machine oiled in the designated oiling holes and points. The hook shaft should be wiped before replacing the bobbin case. The machine should be sewed on scrap until the material and thread show clean and free of oil on the scrap.

UTAH TECHNICAL COLLEGE AT PROVO

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SAFETY

Practice Safety at Your Machine

1. Keep the aisles clean.

2. Keep your work station neat.

3. Take care of your personal tools and machines.

4. Keep alert to movements of material.

5. Turn your motor off before adjusting or cleaning your machine.

6. Remove your foot from the treadle before changing the needle.

7. Call your instructor for trouble (or floorlady if you are employed).

8. Correct lifting and carrying habits.

9. Know the safety regulations of the company.

10. Know the safety precautions on your own machine.

11. ALWAYS THINK AND PRACTICE SAFETY.

UTAH TECHNICAL COLLEGE AT PROVO

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NOTCHES

Notches are indications to sew by.

Notch- A cut in the top of the fabric indicating where to sew

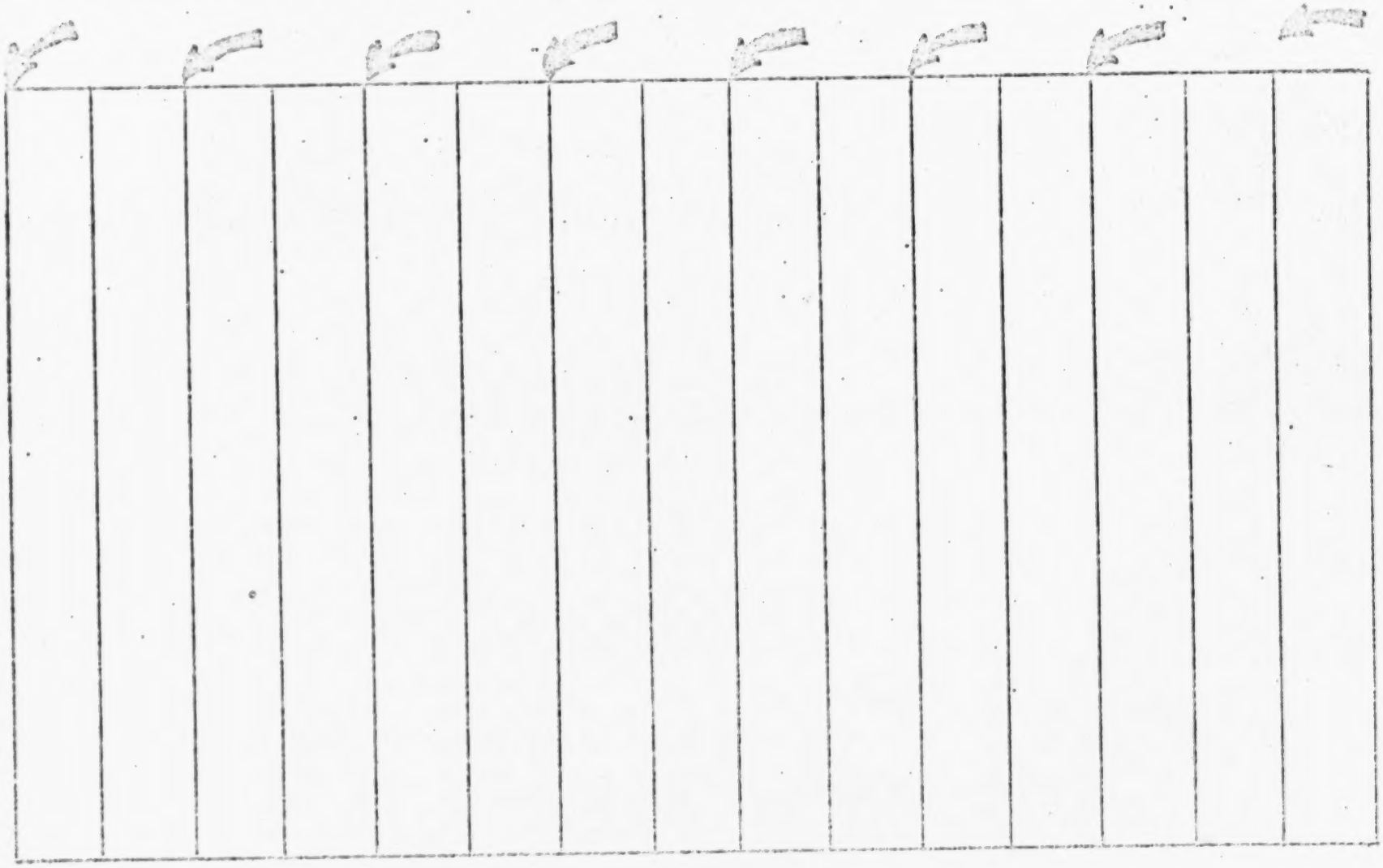
Notch - A V-shaped cut in the top of the fabric indicating where to sew

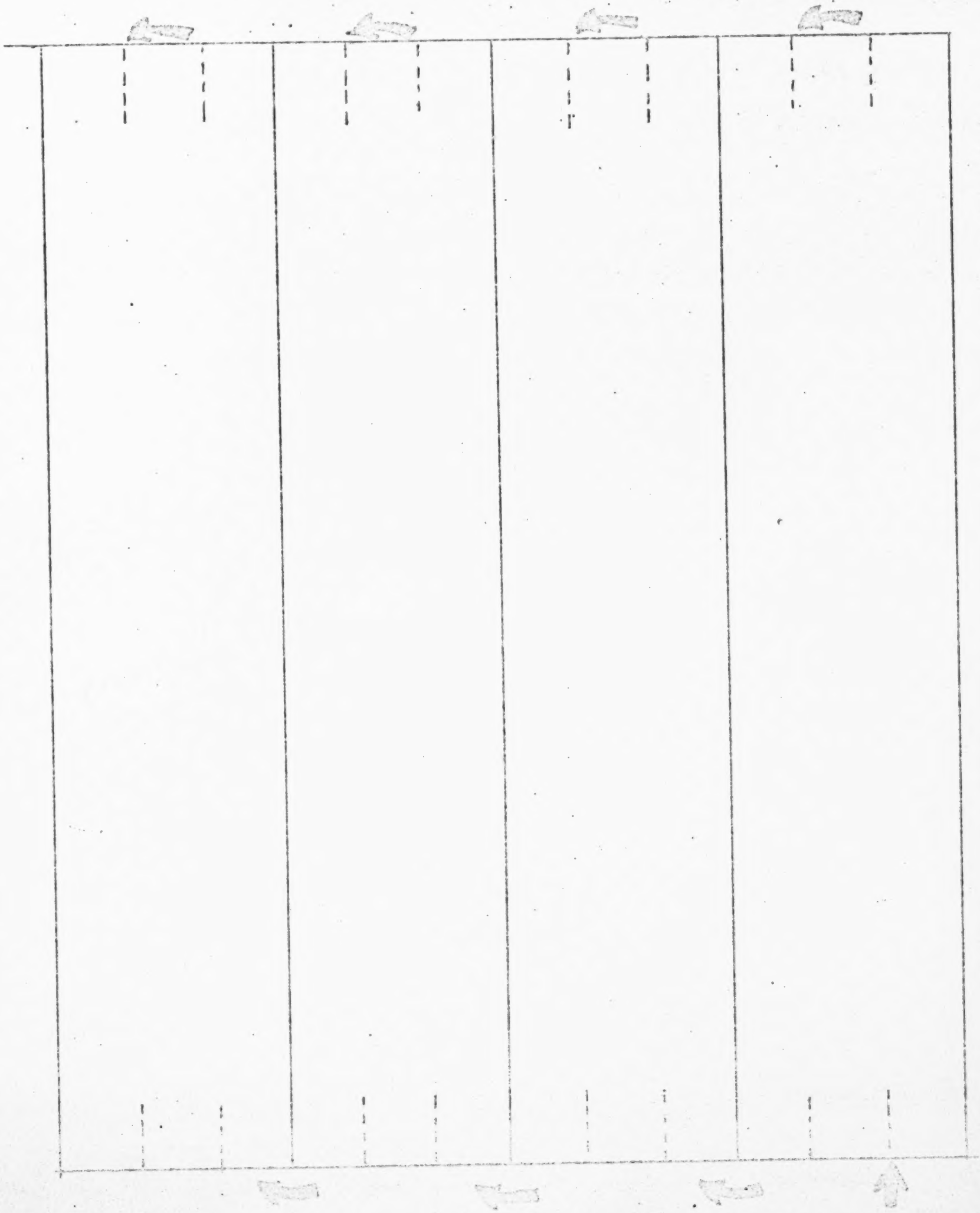
Right and Left Notch - Used on sleeves to indicate right and left sleeve

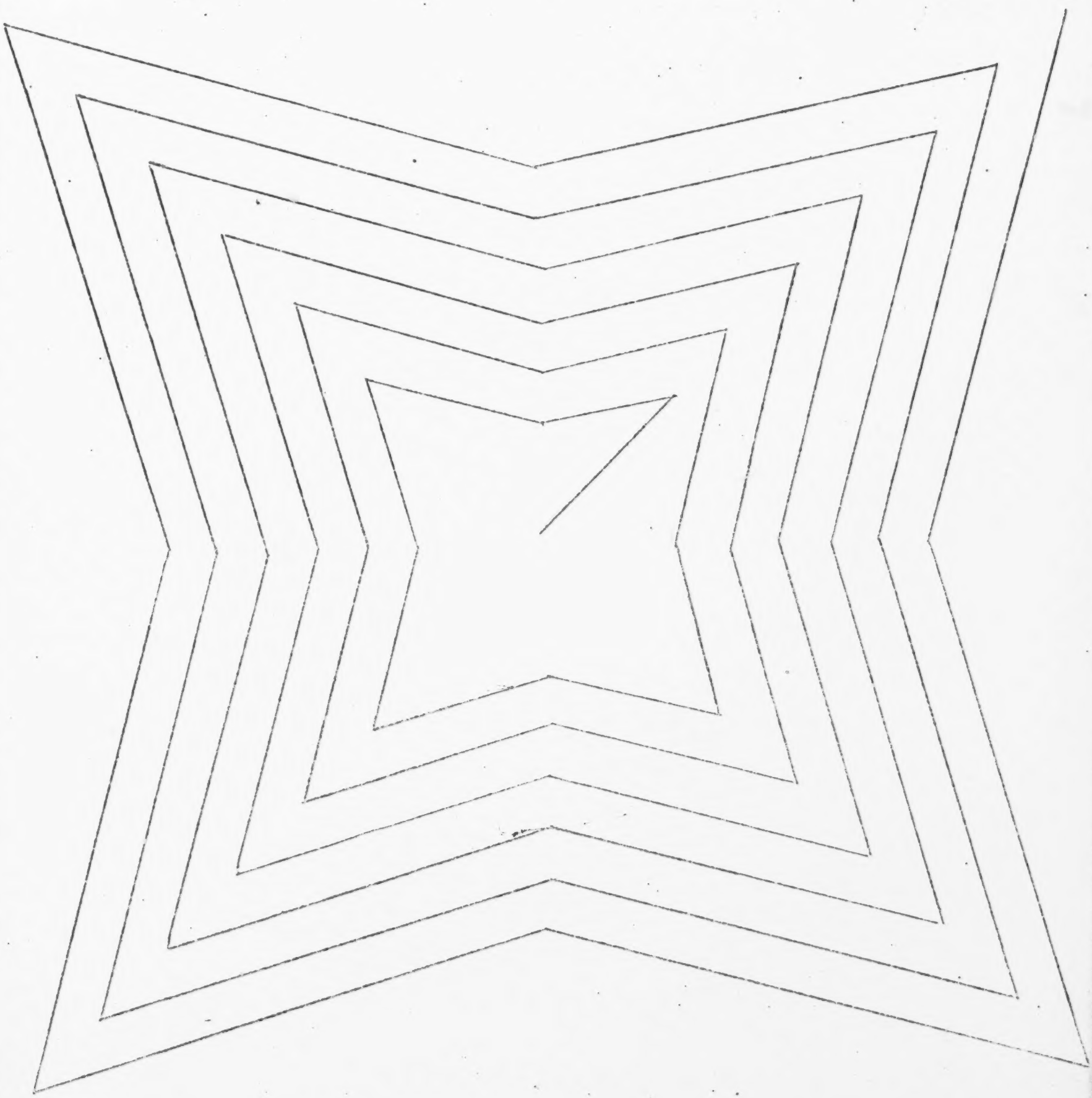
Grain Notch - Used to indicate the right grain of the fabric

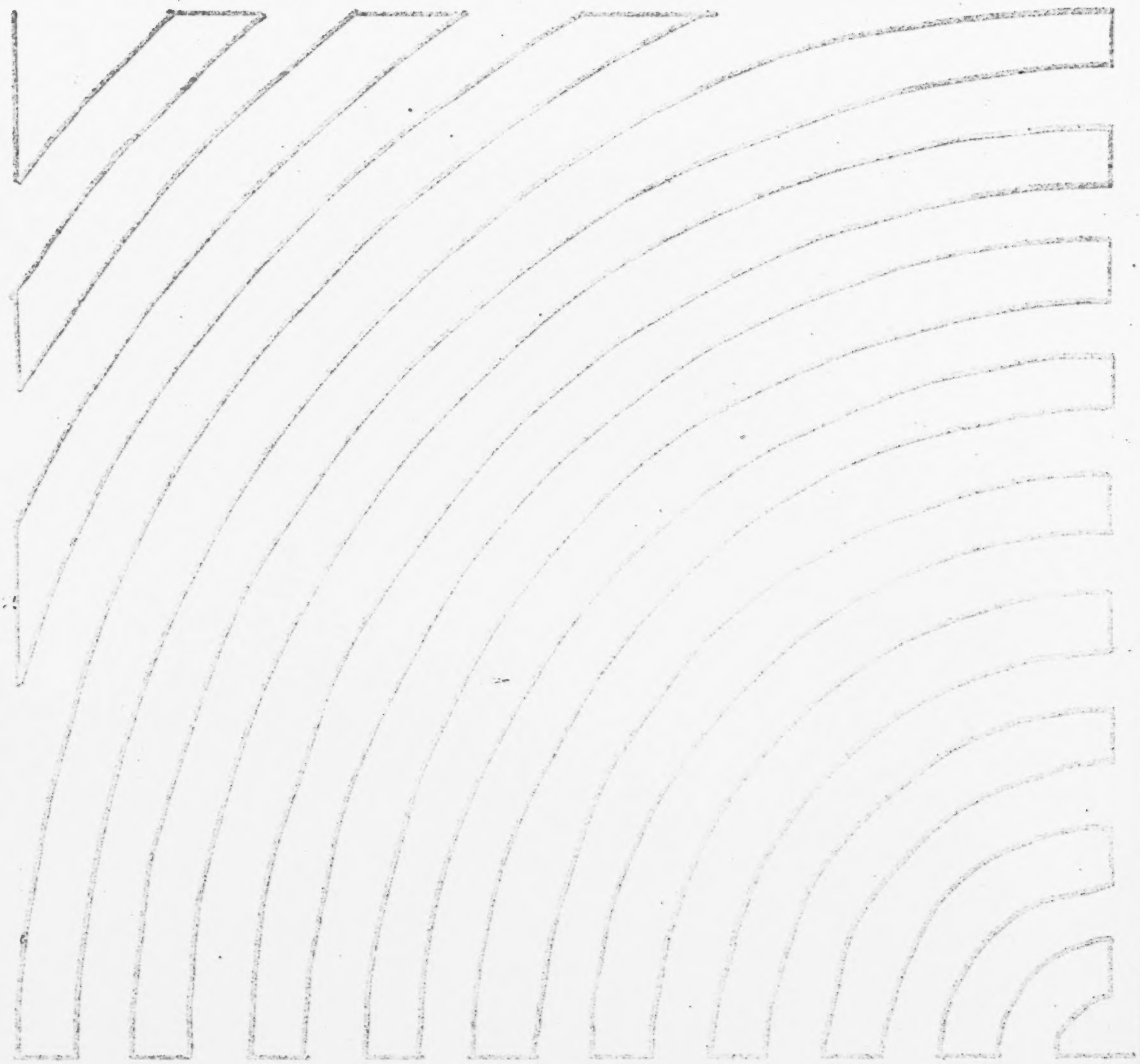
Center Notch - Used to indicate the center point on sleeves back pleats,etc.

Notch - A hole down in the fabric that must be covered when you sew but indicates where to sew. This notch is also called an Owl Hole and a Drill Hole.

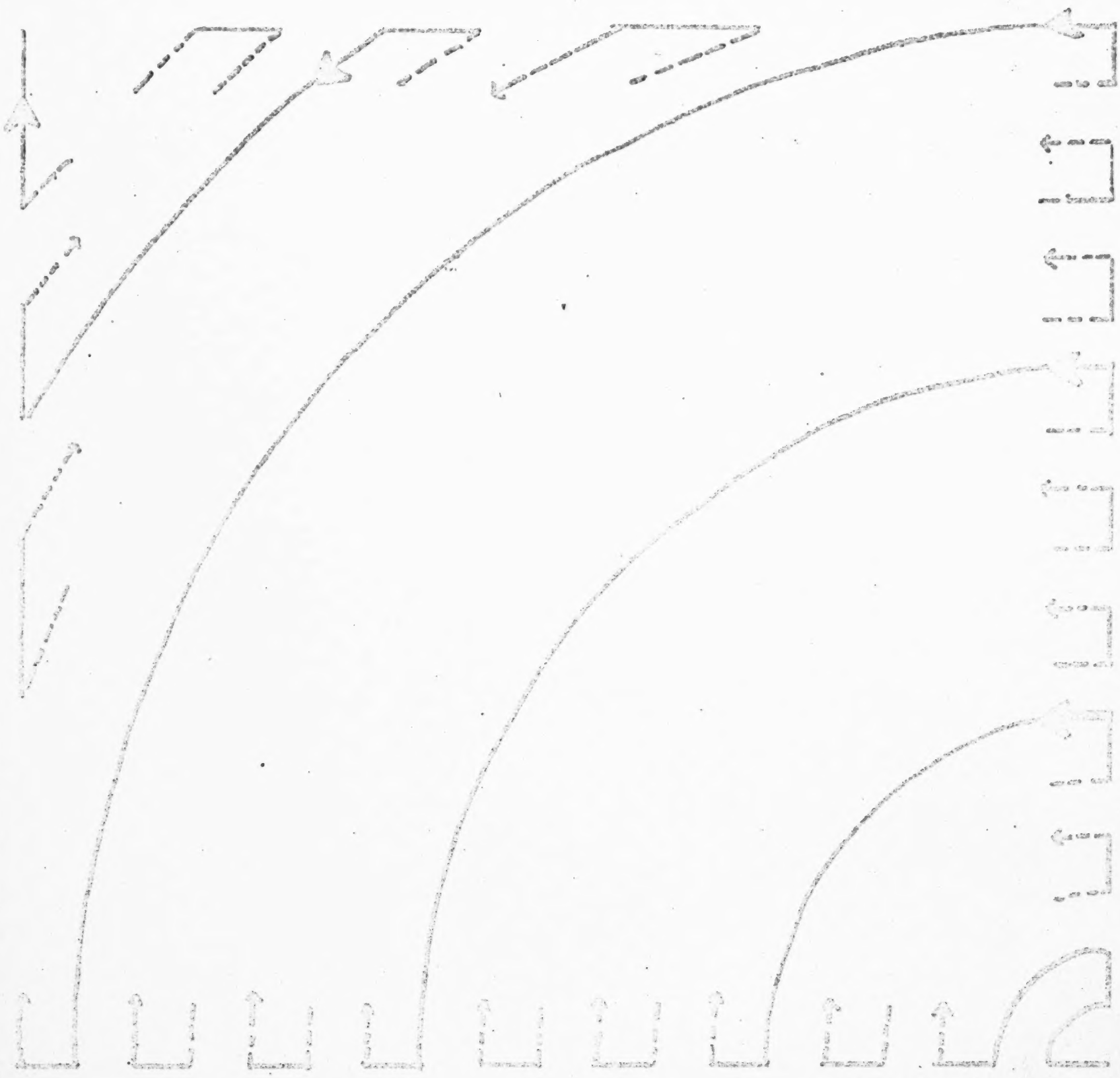








PS-PM-5 _____ Unit 5



PS-PM-6 _____ _____ Sheet 6

EMPLOYMENT FOR THE APPAREL INDUSTRY 1960 - 1967

STATE OF UTAH

	1960	1961	1962	1963	1964	1965	1966	1967
January	1573	1647	1856	1814	2010	2698	2939	3507
February	1645	1723	1848	1884	2156	2754	3201	3531
March	1694	1816	1933	1973	2397	2876	3361	3716
April	1783	1898	2137	1972	2394	3041	3499	3806
May	1859	1952	2152	2106	2443	2995	3540	3859
June	1877	2012	2217	2267	2431	2997	3632	4006
July	1832	2020	2243	2325	2704	2940	3456	3916
August	1853	2082	2365	2450	2799	2844	3553	4010
September	1882	2126	2449	2462	2891	2857	3734	4029
October	1886	2090	2013	2494	2822	2916	3580	4336 p
November	1809	2039	2066	2324	2898	2907	3605	4212 p
December	1780	2016	2007	2315	2927	2938	3620	4239 p

EMPLOYMENT FOR THE APPAREL INDUSTRY 1960 - 1967

SALT ALKE LABOR MARKET AREA

	1960	1961	1962	1963	1964	1965	1966	1967
January	816	842	898	718	649	981	910	1072
February	851	882	879	720	747	949	964	1089
March	861	896	926	763	777	1004	1005	1134
April	877	860	966	755	772	1052	1041	1141
May	905	862	927	752	773	1025	1081	1142
June	907	855	907	782	722	978	1081	1153
July	820	864	865	778	1017	941	1103	1197
August	815	879	932	804	1025	858	1122	1211
September	824	935	918	781	1030	903	1114	1223
October	859	950	720	819	1005	869	1076	1172
November	836	920	777	700	1019	878	1076	1162
December	847	960	804	799	1051	872	1083	1171

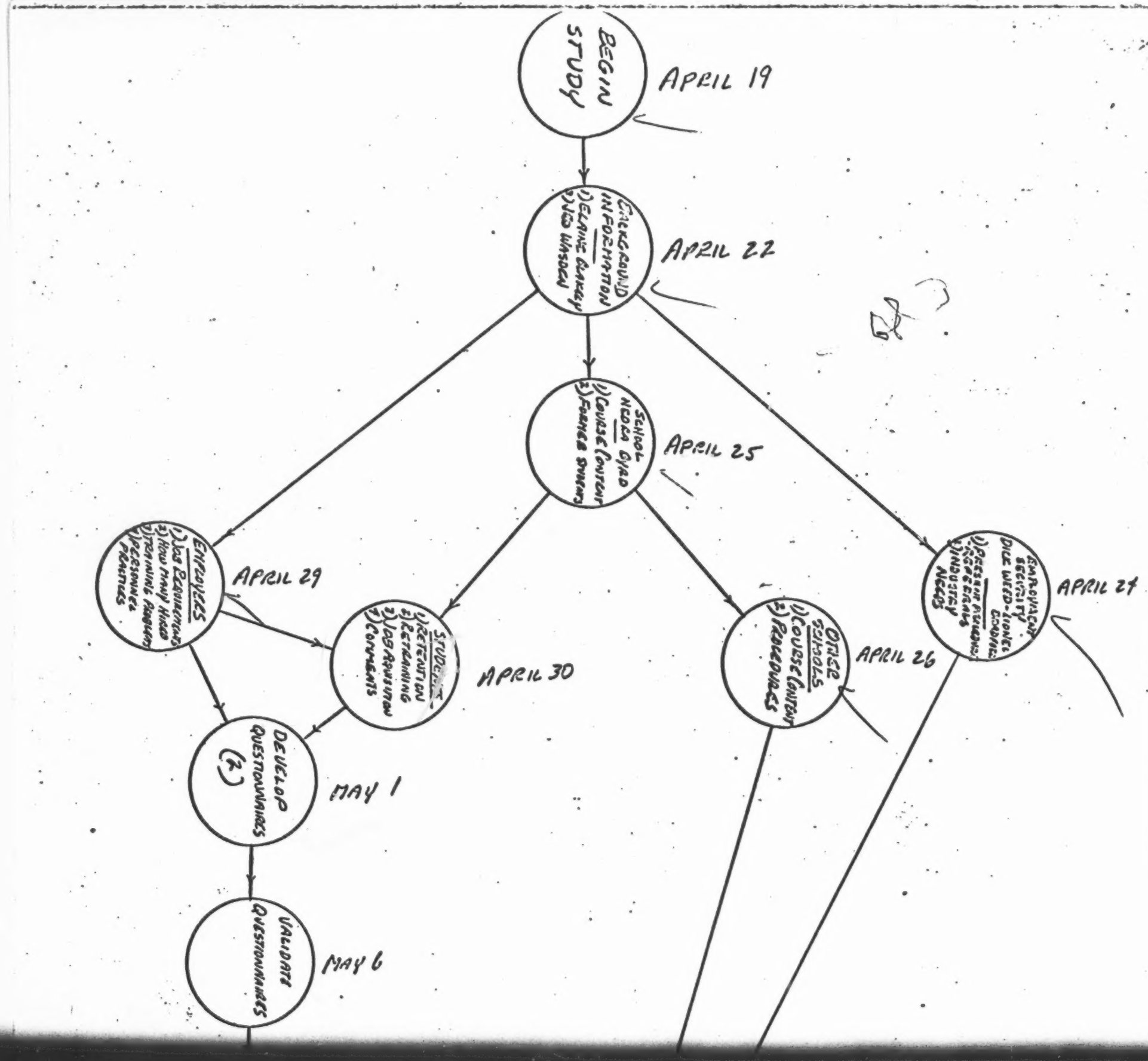
NEW HIRES FOR THE APPAREL INDUSTRY 1960 - 1967

STATE OF UTAH

	1960	1961	1962	1963	1964	1965	1966	1967
January								
February								
March	312	242	280	398	459	579	821	843
April								
May								
June	434	410	577	635	590	575	1144	1272
July								
August								
September	288	383	601	541	554	532	883	890
October								
November								
December	240	212	370	288	432	559	567	728

SALT LAKE LABOR MARKET AREA

January								
February								
March	146	96	112	130	118	192	167	121
April								
May								
June	205	148	144	127	110	146	352	162
July								
August								
September	122	155	225	133	140	79	160	144
October								
November								
December	136	116	176	86	105	74	116	63


BEGIN STUDY
APRIL 19
BACKGROUND INFORMATION
1) ELAINE BARKER
2) VIC WATSON
APRIL 22
SCHOOL NEEDS BOARD
1) COURSE CONTENT
2) FURNACE SYSTEMS
APRIL 25
EMPLOYEES
1) JOB REQUIREMENTS
2) HOW MANY HIRED
3) TRAINING REQUIRED
4) PERSONNEL PRACTICES
APRIL 29
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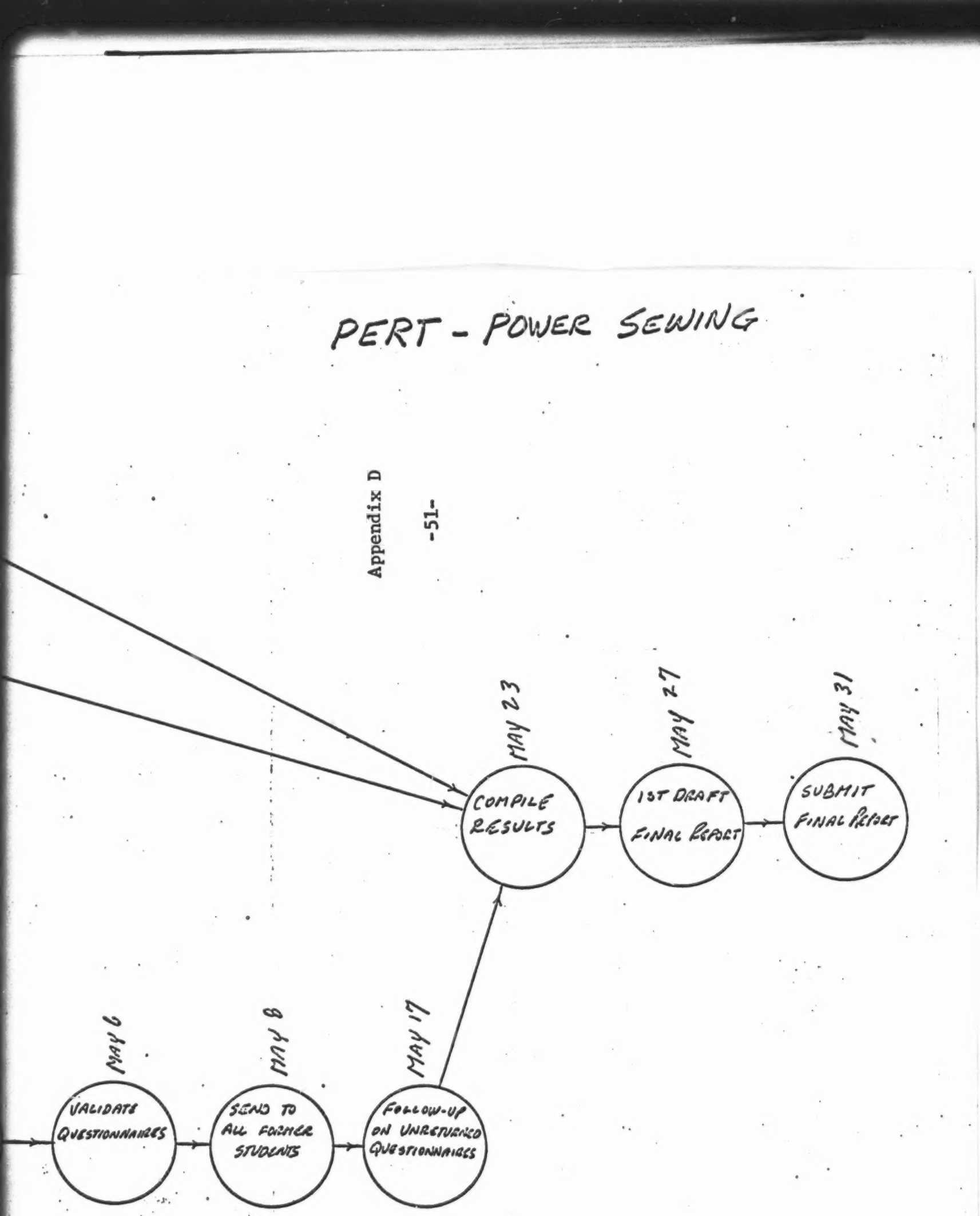
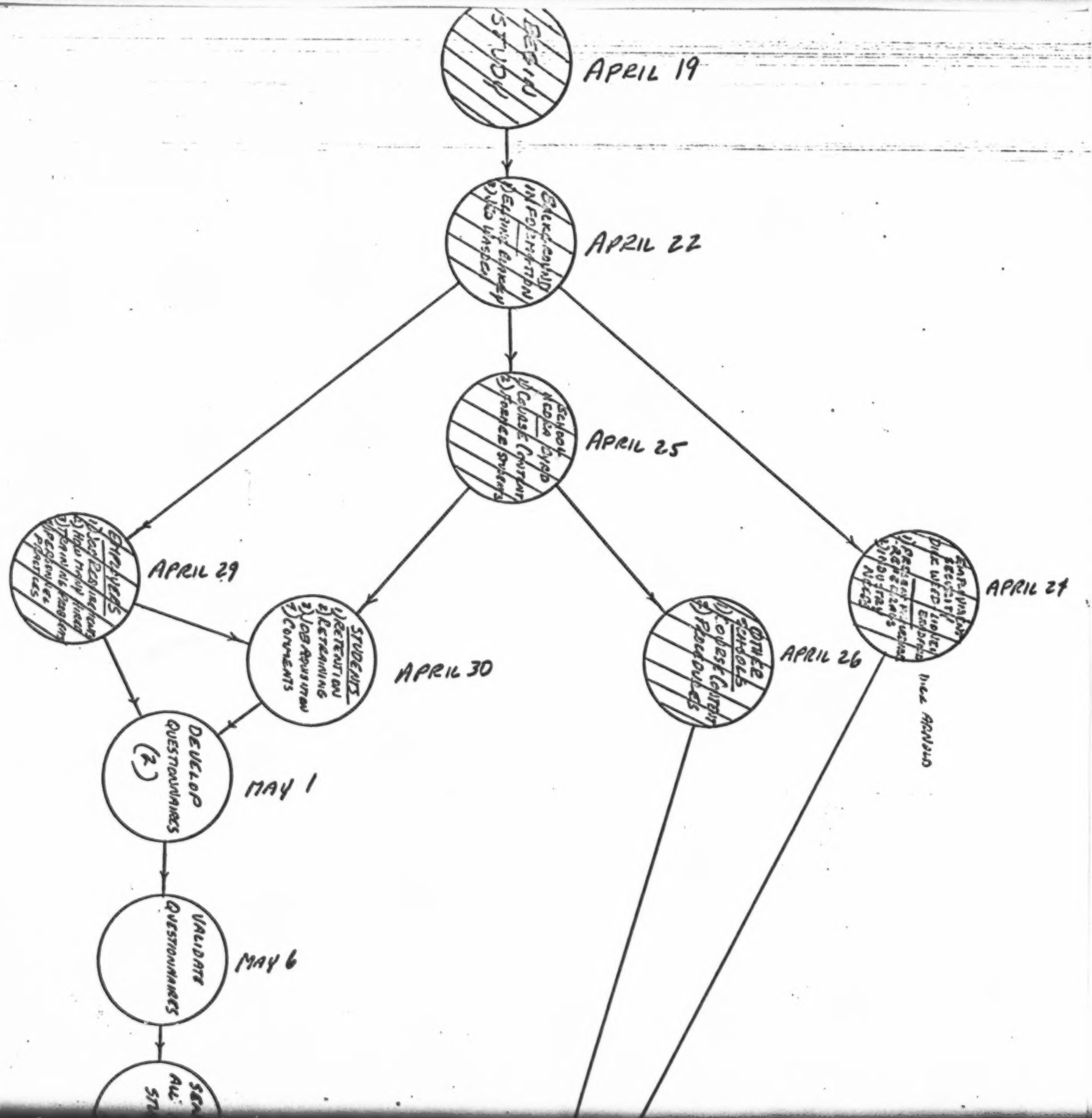
1) RETENTION
2) RETRAINING
3) JOB ACQUISITION
4) COMMENTS
APRIL 30
OTHER SCHOOLS
1) COURSE CONTENT
2) PROCEDURES
APRIL 26
EMPLOYMENT SECURITY DIVISION WEED-LIONEL LOADING
1) PRESENT FUNCTIONS
2) FUTURE PROGRAMS
3) INDUSTRY NEEDS
APRIL 27
DEVELOP QUESTIONNAIRES (2)
MAY 1
VALIDATE QUESTIONNAIRES
MAY 6

PERT - POWER SEWING




APRIL 19
APRIL 22
APRIL 25
APRIL 29
APRIL 30
APRIL 26
APRIL 27
MAY 1
MAY 6
DEVELOP QUESTIONNAIRES (2)
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PERT - POWER SEWING